

Hungry Canyons Alliance

Stream Stabilization in Western Iowa



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Engineer**

Causes of Streambed Degradation



- Stream straightening and land use changes
- Higher water velocities
- Meander or downcut
- Accelerated soil erosion



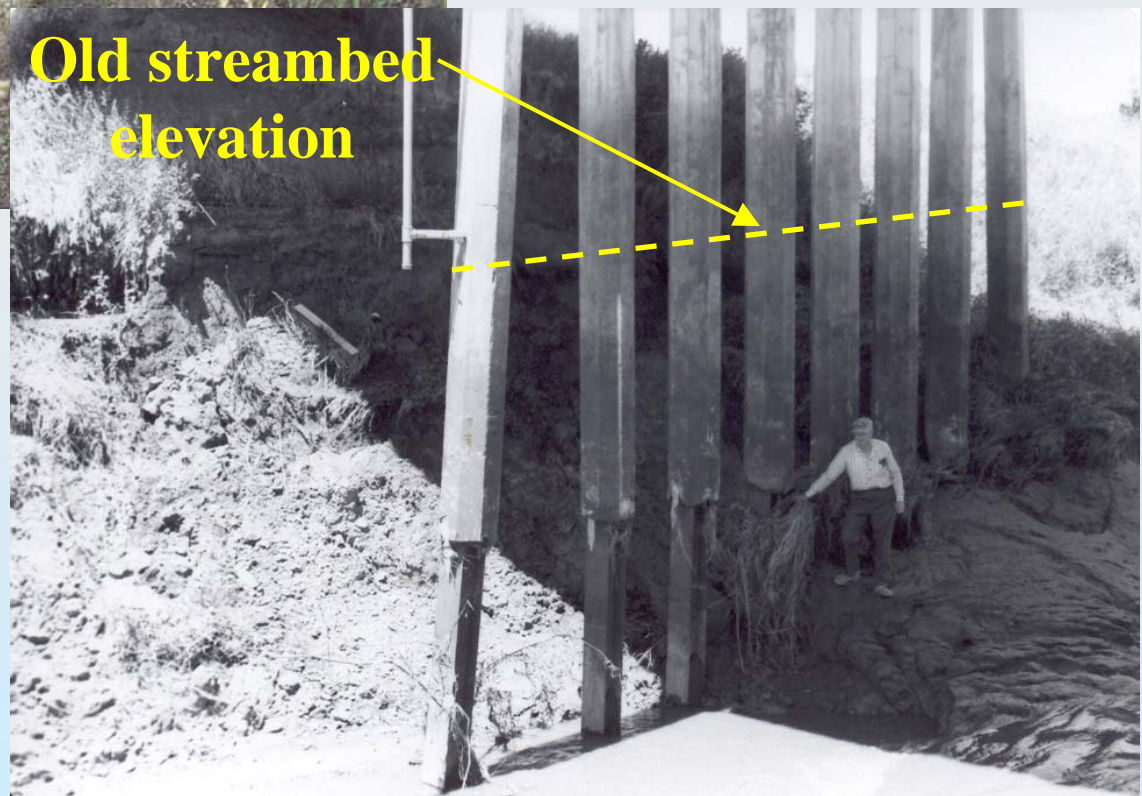




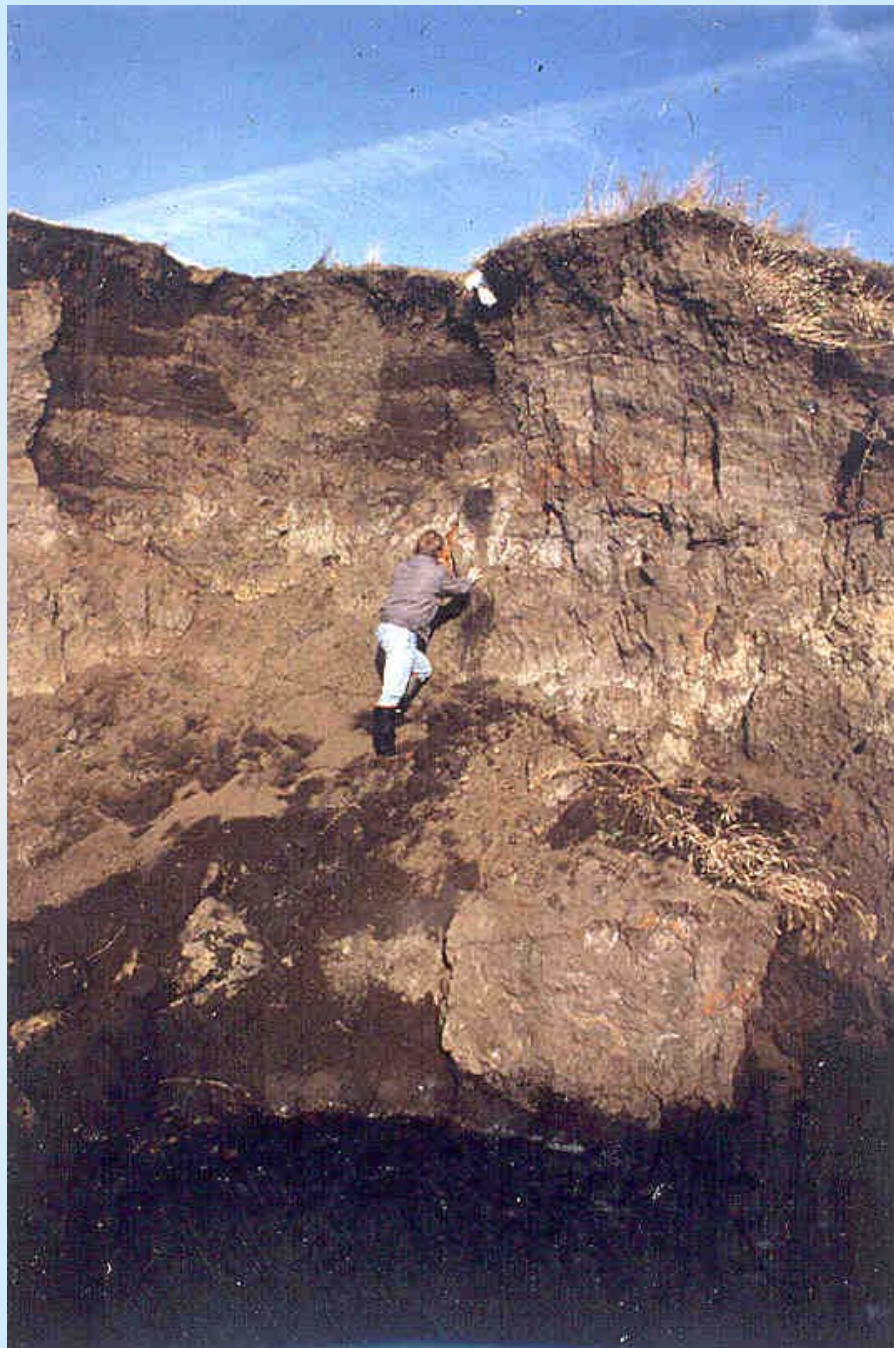
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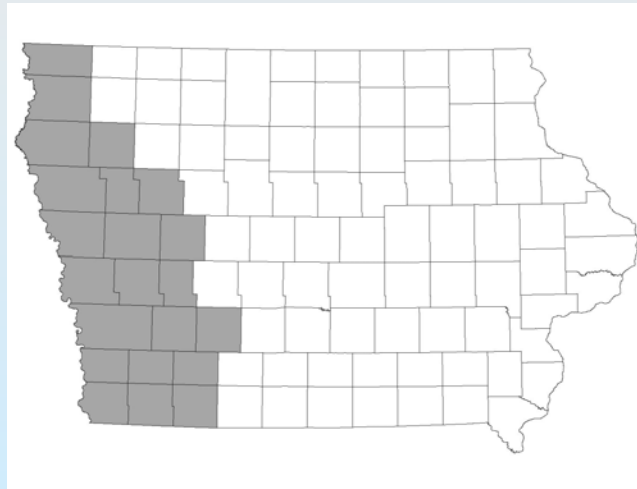






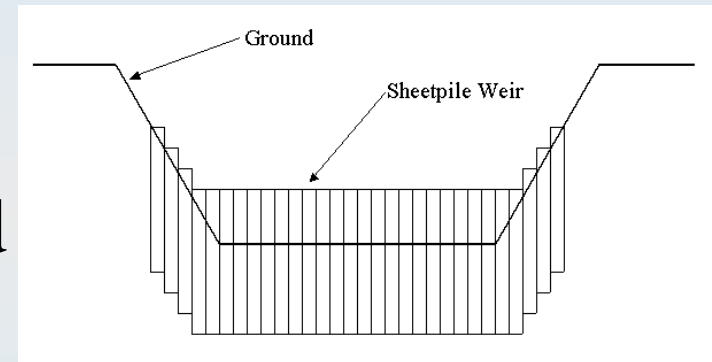
Purpose

- To focus attention on the problems of, and develop solutions related to, stream channel degradation in 22 counties of western Iowa with deep loess soils



Streambed Stabilization Structures

- Raised weir section
- Steel sheet pile and rip-rap
- Decreases slope of streambed
- Prevents further downcutting
- Creates an upstream backwater condition
 - Sediment settles out upstream
 - Reduces sediment loads
 - Protects bridge pilings



Montgomery



Woodbury



Monona



Crawford

Benefits of Hungry Canyons Structures

- 195 bridges protected
- Protection of numerous utility lines (electric, phone, gas, sewer, water)
- Protection of farmland
- Reduced sediment loads and improved water quality
- Prevention of soil movement into the Missouri River
- Reduction of the “dead zone” in the Gulf of Mexico
- **For every \$1 invested in Hungry Canyons Alliance structures, more than \$4.40 in property value is protected.**



**Costly
Problem**



Affordable Solution

